

WHAT IS CLAIMED IS:

1. An isolated polypeptide comprising an amino acid sequence selected from the group consisting of:
 - 5 (a) the amino acid sequence as set forth in either SEQ ID NO: 2 or SEQ ID NO: 5; and
 - (b) the amino acid sequence encoded by the DNA insert in ATCC Deposit No. PTA-976.
- 10 2. An isolated polypeptide comprising an amino acid sequence selected from the group consisting of:
 - (a) the amino acid sequence as set forth in either SEQ ID NO: 3 or SEQ ID NO: 6, optionally further comprising an amino-terminal methionine;
 - (b) an amino acid sequence for an ortholog of either SEQ ID NO: 2 or
 - 15 SEQ ID NO: 5;
 - (c) an amino acid sequence that is at least about 70 percent identical to the amino acid sequence of either SEQ ID NO: 2 or SEQ ID NO: 5, wherein the polypeptide has an activity of the polypeptide set forth in either SEQ ID NO: 2 or SEQ ID NO: 5;
 - 20 (d) a fragment of the amino acid sequence set forth in either SEQ ID NO: 2 or SEQ ID NO: 5 comprising at least about 25 amino acid residues, wherein the fragment has an activity of the polypeptide set forth in either SEQ ID NO: 2 or SEQ ID NO: 5, or is antigenic; and
 - (e) an amino acid sequence for an allelic variant or splice variant of the
 - 25 amino acid sequence as set forth in either SEQ ID NO: 2 or SEQ ID NO: 5, the amino acid sequence encoded by the DNA insert in ATCC Deposit No. PTA-976, or the amino acid sequence of any of (a) - (c).

3. An isolated polypeptide comprising an amino acid sequence selected from the group consisting of:

(a) the amino acid sequence as set forth in either SEQ ID NO: 2 or SEQ ID NO: 5 with at least one conservative amino acid substitution, wherein the polypeptide has an activity of the polypeptide set forth in either SEQ ID NO: 2 or SEQ ID NO: 5;

(b) the amino acid sequence as set forth in either SEQ ID NO: 2 or SEQ ID NO: 5 with at least one amino acid insertion, wherein the polypeptide has an activity of the polypeptide set forth in either SEQ ID NO: 2 or SEQ ID NO: 5;

(c) the amino acid sequence as set forth in either SEQ ID NO: 2 or SEQ ID NO: 5 with at least one amino acid deletion, wherein the polypeptide has an activity of the polypeptide set forth in either SEQ ID NO: 2 or SEQ ID NO: 5;

(d) the amino acid sequence as set forth in either SEQ ID NO: 2 or SEQ ID NO: 5 that has a C- and/or N- terminal truncation, wherein the polypeptide has an activity of the polypeptide set forth in either SEQ ID NO: 2 or SEQ ID NO: 5; and

(e) the amino acid sequence as set forth in either SEQ ID NO: 2 or SEQ ID NO: 5 with at least one modification selected from the group consisting of amino acid substitutions, amino acid insertions, amino acid deletions, C-terminal truncation, and N-terminal truncation, wherein the polypeptide has an activity of the polypeptide set forth in either SEQ ID NO: 2 or SEQ ID NO: 5.

4. An isolated polypeptide encoded by a nucleic acid molecule comprising a nucleotide sequence selected from the group consisting of:

(a) the nucleotide sequence as set forth in either SEQ ID NO: 1 or SEQ ID NO: 4;

(b) the nucleotide sequence of the DNA insert in ATCC Deposit No. PTA-976;

(c) a nucleotide sequence encoding the polypeptide as set forth in either SEQ ID NO: 2 or SEQ ID NO: 5; and

(d) a nucleotide sequence that hybridizes under at least moderately stringent conditions to the complement of any of (a) - (c); wherein the polypeptide has an activity of the polypeptide set forth in either SEQ ID NO: 2 or SEQ ID NO: 5.

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5. An isolated polypeptide encoded by a nucleic acid molecule comprising a nucleotide sequence selected from the group consisting of:

(a) a nucleotide sequence encoding a polypeptide that is at least about 70 percent identical to the polypeptide as set forth in either SEQ ID NO: 2 or SEQ ID NO: 5;

(b) a nucleotide sequence encoding an allelic variant or splice variant of the nucleotide sequence as set forth in either SEQ ID NO: 1 or SEQ ID NO: 4, the nucleotide sequence of the DNA insert in ATCC Deposit No. PTA-976, or the nucleotide sequence of (a);

(c) a region of the nucleotide sequence of either SEQ ID NO: 1 or SEQ ID NO: 4, the DNA insert in ATCC Deposit No. PTA-976, or the nucleotide sequence of (a) or (b), encoding a polypeptide fragment of at least about 25 amino acid residues;

(d) a region of the nucleotide sequence of either SEQ ID NO: 1 or SEQ ID NO: 4, the DNA insert in ATCC Deposit No. PTA-976, or the nucleotide sequence of any of (a) - (c), comprising a fragment of at least about 16 nucleotides; and

(e) a nucleotide sequence that hybridizes under at least moderately stringent conditions to the complement of any of (a) - (d); wherein the polypeptide has an activity of the polypeptide set forth in either SEQ ID NO: 2 or SEQ ID NO: 5.

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6. An isolated polypeptide encoded by a nucleic acid molecule comprising a nucleotide sequence selected from the group consisting of:

(a) a nucleotide sequence encoding a polypeptide as set forth in either SEQ ID NO: 2 or SEQ ID NO: 5 with at least one conservative amino acid substitution;

5 (b) a nucleotide sequence encoding a polypeptide as set forth in either SEQ ID NO: 2 or SEQ ID NO: 5 with at least one amino acid insertion;

(c) a nucleotide sequence encoding a polypeptide as set forth in either SEQ ID NO: 2 or SEQ ID NO: 5 with at least one amino acid deletion;

(d) a nucleotide sequence encoding a polypeptide as set forth in either SEQ ID NO: 2 or SEQ ID NO: 5 that has a C- and/or N- terminal truncation;

10 (e) a nucleotide sequence encoding a polypeptide as set forth in either SEQ ID NO: 2 or SEQ ID NO: 5 with at least one modification selected from the group consisting of amino acid substitutions, amino acid insertions, amino acid deletions, C-terminal truncation, and N-terminal truncation;

(f) a nucleotide sequence of any of (a) - (e) comprising a fragment of at least about 16 nucleotides; and

(g) a nucleotide sequence that hybridizes under at least moderately stringent conditions to the complement of any of (a) - (f);

wherein the polypeptide has an activity of the polypeptide set forth in either SEQ ID NO: 2 or SEQ ID NO: 5.

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7. The isolated polypeptide according to Claim 2 or 3, wherein the percent identity is determined using a computer program selected from the group consisting of GAP, BLASTP, FASTA, BLASTA, BLASTX, BestFit, and the Smith-Waterman algorithm.

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8. A composition comprising the polypeptide of any of Claims 1, 2, or 3, and a pharmaceutically acceptable formulation agent.

9. The composition of Claim 8, wherein the pharmaceutically acceptable formulation agent is a carrier, adjuvant, solubilizer, stabilizer, or anti-oxidant.

10. The composition of Claim 8, wherein the polypeptide comprises the amino acid sequence as set forth in either SEQ ID NO: 3 or SEQ ID NO: 6.

11. A polypeptide comprising a derivative of the polypeptide of any of Claims 1, 2, or 3.

12. The polypeptide of Claim 11 that is covalently modified with a water-soluble polymer.

13. The polypeptide of Claim 12, wherein the water-soluble polymer is selected from the group consisting of polyethylene glycol, monomethoxy-polyethylene glycol, dextran, cellulose, poly-(N-vinyl pyrrolidone) polyethylene glycol, propylene glycol homopolymers, polypropylene oxide/ethylene oxide copolymers, polyoxyethylated polyols, and polyvinyl alcohol.

14. A fusion polypeptide comprising the polypeptide of any of Claims 1, 2, or 3 fused to a heterologous amino acid sequence.

15. The fusion polypeptide of Claim 14, wherein the heterologous amino acid sequence is an IgG constant domain or fragment thereof.

16. A polypeptide produced by a process comprising culturing a host cell comprising a vector comprising a nucleic acid molecule comprising a nucleotide sequence selected from the group consisting of:

(a) the nucleotide sequence as set forth in either SEQ ID NO: 1 or SEQ ID NO: 4;

(b) the nucleotide sequence of the DNA insert in ATCC Deposit No. PTA-976;

(c) a nucleotide sequence encoding the polypeptide as set forth in either SEQ ID NO: 2 or SEQ ID NO: 5; and

5 (d) a nucleotide sequence that hybridizes under at least moderately stringent conditions to the complement of any of (a) - (c);
under suitable conditions to express the polypeptide, and optionally isolating the polypeptide from the culture.

10 17. A polypeptide produced by a process comprising culturing a host cell comprising a vector comprising a nucleic acid molecule comprising a nucleotide sequence selected from the group consisting of:

(a) a nucleotide sequence encoding a polypeptide that is at least about 70 percent identical to the polypeptide as set forth in either SEQ ID NO: 2 or SEQ ID
15 NO: 5, wherein the encoded polypeptide has an activity of the polypeptide set forth in either SEQ ID NO: 2 or SEQ ID NO: 5;

(b) a nucleotide sequence encoding an allelic variant or splice variant of the nucleotide sequence as set forth in either SEQ ID NO: 1 or SEQ ID NO: 4, the nucleotide sequence of the DNA insert in ATCC Deposit No. PTA-976, or the
20 nucleotide sequence of (a);

(c) a region of the nucleotide sequence of either SEQ ID NO: 1 or SEQ ID NO: 4, the DNA insert in ATCC Deposit No. PTA-976, the nucleotide sequence (a) or (b), encoding a polypeptide fragment of at least about 25 amino acid residues, wherein the polypeptide fragment has an activity of the encoded polypeptide as set
25 forth in either SEQ ID NO: 2 or SEQ ID NO: 5, or is antigenic;

(d) a region of the nucleotide sequence of either SEQ ID NO: 1 or SEQ ID NO: 4, the DNA insert in ATCC Deposit No. PTA-976, or the nucleotide sequence of any of (a) - (c), comprising a fragment of at least about 16 nucleotides; and

(e) a nucleotide sequence that hybridizes under at least moderately stringent conditions to the complement of any of (a) - (d);
under suitable conditions to express the polypeptide, and optionally isolating the polypeptide from the culture.

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18. A polypeptide produced by a process comprising culturing a host cell comprising a vector comprising a nucleic acid molecule comprising a nucleotide sequence selected from the group consisting of:

(a) a nucleotide sequence encoding a polypeptide as set forth in either
10 SEQ ID NO: 2 or SEQ ID NO: 5 with at least one conservative amino acid substitution, wherein the encoded polypeptide has an activity of the polypeptide set forth in either SEQ ID NO: 2 or SEQ ID NO: 5;

(b) a nucleotide sequence encoding a polypeptide as set forth in either
15 SEQ ID NO: 2 or SEQ ID NO: 5 with at least one amino acid insertion, wherein the encoded polypeptide has an activity of the polypeptide set forth in either SEQ ID NO: 2 or SEQ ID NO: 5;

(c) a nucleotide sequence encoding a polypeptide as set forth in either
20 SEQ ID NO: 2 or SEQ ID NO: 5 with at least one amino acid deletion, wherein the encoded polypeptide has an activity of the polypeptide set forth in either SEQ ID NO: 2 or SEQ ID NO: 5;

(d) a nucleotide sequence encoding a polypeptide as set forth in either
SEQ ID NO: 2 or SEQ ID NO: 5 that has a C- and/or N- terminal truncation, wherein the encoded polypeptide has an activity of the polypeptide set forth in either SEQ ID NO: 2 or SEQ ID NO: 5;

25 (e) a nucleotide sequence encoding a polypeptide as set forth in either
SEQ ID NO: 2 or SEQ ID NO: 5 with at least one modification selected from the group consisting of amino acid substitutions, amino acid insertions, amino acid deletions, C-terminal truncation, and N-terminal truncation, wherein the encoded

polypeptide has an activity of the polypeptide set forth in either SEQ ID NO: 2 or SEQ ID NO: 5;

(f) a nucleotide sequence of any of (a) - (e) comprising a fragment of at least about 16 nucleotides; and

- 5 (g) a nucleotide sequence that hybridizes under at least moderately stringent conditions to the complement of any of (a) - (f);
under suitable conditions to express the polypeptide, and optionally isolating the polypeptide from the culture.

- 10 19. The polypeptide of any of Claims 16, 17, or 18, wherein the host cell is a eukaryotic cell.

20. The polypeptide of any of Claims 16, 17, or 18, wherein the host cell is a prokaryotic cell.

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